2006-08-08 System Heads Meeting

Tuesday, August 08, 2006
2:01 PM

- **Attendance**:
  - Ran Meeting: Roger
  - Attend: Me, Keith Gollwitzer, Dan Johnson, Paul Derwent, Paul Czarapata, Valeri L, Craig Moore, Ioanis K., Bill Pellico, Jim Morgan, Vaia, Jerry Annala.
- **Machine Strategy**:
  - **Operations**
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  - **Linac**
    - Pre-acc problems for some time now. The source stability has not been there. Has been vacuum problems.
      - Source wanders 2ma in 24 hours. That is about a turn in Booster land.
      - Don't keep two hot sources presently.
      - Both sources are in poor shape.
      - To refurbish the ion pumps is a long manual process.
    - LRF5 - there were some problems, but it has quieted down.
    - Line voltage issue. Steve Hays is looking at this.
    - Pre-acc notch causes problems with the Linac LLRF.
  - **Booster**
    - Running 11-12 turns and pushing intensity
    - Problems with transition and beam quality. Problems with bunch length near transition.
      - Gamma-T project has brought this up again
      - Quad damper damps out oscillation at transition.
      - Also have regular longitudinal dampers.
      - Don't go through the center of Gamma-T quads in transition. So if you pulse Gamma-T, you get orbit steering. So a timing change was implemented to minimize RPOS oscillation at transition. But now were are tuning in a hole.
      - Two modules
        - Paraphase module
        - Phase shifter module
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    - Still have orbit problems.
      - Have break-points in the correctors.
      - Cogging moves radial position.
      - CE have slew limits.
      - So there are constraints of what can be done.
      - Bill Marsh may write an autocorrect program.
      - Have kept the collimators the same and have tried to change to the orbit to match.
    - Have been cautious with watt meter.
    - Bumping around Booster is now a full-time job.
  - **Pbar**
    - Need to run 2.2sec most of the time
    - Difference between $29 and $23. Is the orbit change a momentum change?
    - BPMs
      - P1 BPMs still masked out. Peter Prieto looked at this last week. Isolated where the problem is. Plot BPM vs BPM, get an ellipse instead of a point. This week Bob Dysert is looking into this.
      - P2 and AP1 BPMs have larger RMS than in February by a factors of 2 to 3. This means have to increase number of samples before can correct.
      - Auto correction program work has been done to allow studies.
      - Emphasis will get BPMs working. And get beam centered on Lens. Will take a month or so.
    - Will also work on the stacktail. We have the wrong slop on the stacktail.
      - Will request time to make some stacktail measurements.
    - Extracting beam from the Accumulator.
  - **Main Injector**

- For slip stacking, beam quality is the issue.
- BPM installation is complete!
  - 3 BPMs with large offsets.
  - No other issues
  - Testing all modes, etc…
- BLM upgrade
  - Making some progress
  - Fixed pedistal problems.
  - Problems with ground loops in the tunnel. Tried to help during the last access.
  - Other ideas - put chokes in HV system
  - Been staging new hardware. Can start when they have the opportunity.
  - Some other small issues: software
  - NuMI came up.
- Orbit is in different place - pbar only, numi + pbar, numi only.
- NuMI - 130KW average (instead of 170KW). Much less time to run less than a 2.2 sec cycle time
  - Ops are worried about Accumulator emittance. Horizontal emittance, so cycle times are backed off more.
  - With improvements in shots to RR, take away 2 sec rep rates away that ran during this time.
  - Now avoid interleaving NuMI and NuMI + stacking.
  - Pbar does not want to go less than 2.4 sec.
- Hope to upgrade MI8 BPMs next week.

- **Recycler**
  - MI31 external AC unit pad poured. Walked through building. 12 hours in building. - probably two day shifts in the building.
  - DCCT was repaired during the access. Will get better lifetime measurements.
  - Changing machine coordinator on-call model.
  - Emittance growth during extraction (transverse). In between the 9 parcels coming out, the emittance of the 5th one is highest. Don't understand the source of this variance. Average is 5-6pi, but beak is 9pi.
  - Going to be making machine requests for SNuMI - measurements in MI with Protons. People are spending more time on this review.
  - Lost Pbar because quad compensation loop could not handle when MI quad bus trip.
  - CE chassis still tripping. Upgrade of one house done. Completion will be on the October 1st time scale.
  - Lifetime on average is worse at large stashes when above 300e10. Can burn 10-20e10 when cooling before a shot.
- **Tevatron**
  - Reliabilty has been the recent issue.
  - The Luminosity that we are getting per particle is not at its best. Was best in winter when proton and Pbar emittances were smallest - around the time of the .28cm Beta*
    - Waist may not be in exactly the same point
    - Lifetime is better.
    - Need to be careful before changing things.
    - May reduce separation during a store to watch lifetime.
  - Need to make a change to either the lattice functions or separation soon. Some of this is just switching the waist.
  - Program to ping the beam is successsful. Only had one store with more Pbars. Need to see more high luminosity stores.
    - Tunes still move. But when coupling was bad, things were worse.
    - Corrections made up to 180GeV.

- **SY120**
  - Mtest wants to come back this week.
  - Pierre will have to signoff.
  - August 28th - MESON roof repair will start then. There was also a user that has been promiced to run that week. For that period of time, there will be a request to run in the evening.
  - Low momentum upgrade.
  - Start the first week in September - 120GeV. Once per minute for 6 sec. spill.
  - Muon people will want 8 GeV beam to meson. Looking for 300MeV muons.
- **NuMI**

- Running
- **MiniBooNE**
  - Pump fail. FESS has one spare, but pump is obsolete. FESS will look for another type of pump.
  - SyBooNE - have a strict cutoff.
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- Talks
  - Talked about usefulness of talks.
  - Should we change the focus?
  - Maybe change the focus of what is shown?
  - There is some repeat.
  - Need to decide what is needed to be seen.
  - Valeri suggest that the Run Co talk cover all of the details on operations and the machine coordinator only cover the studies?